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M E M O R A N D U M

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TO: File
FROM: Larry Lumeh
SUBJECT: Illinois/R05-8303-01B/IL0151
Rockfalls/Masonite Roxite Site
ILD061047502

The Masonite/Roxite site is in Rockfalls, Whiteside County, Illinois (Figure 1). The 5.5 acre site was used for land treatment of unknown solvents between 1970 and 1977. The topography is generally flat with less than 0.1% northwesterly slope. The site is bounded on the west by the Illinois Mississippi Canal which is about 66 feet wide and 18 feet deep. This canal is fed from the Rock River in the north and flows south. Farther west of site, beyond the canal, there are sites for the former Kelly Williamson fuel depot, Koch Asphalt Plant, and Walters Autobody Shop. There were also four bulk fuel storage depots (exact locations not known). All these facilities, and the Masonite site are potential sources of polution that could affect a population of 11,000 people within a 3-mile radius of the Masonite site (Figure 2).

Well logs and geologic data for the Sterling/Rockfalls area suggests a silty top soil, a 10 to 100 foot overburden of sandy/grvel, and a limestone/dolomite layer that is fairly porous and slightly fractured. The sand/gravel layer consist of post glacial river deposits with extensive clay lenses. This layer is interconnected with the underlying limestone/dolomite strata. The Illinois State Water Survey maintains, however, that there are three separate aquifers-one in the shallow gravel/sandstone layer, another in the limestone/dolomite layer, and the third in a deep sandstone layer that extends to

about 1500 feet. The groundwater flow is predominantly westerly towards the Mississippi River, although a slight northwesterly orientation is observed in the upper sand/gravel aquifer. Due to the high porosity and transmissivity prevelent in the stratas, rapid contaminant migration can be expected. Furthermore, since there is no evidence of separation of the aquifers, contamination of more than one aquifer is suspected.

Preliminary Assessment of this site has confirmed the existence of a potential hazard. Groundwater samples from a private well (belonging to Not responsive at Not responsive .) about 1/3 mile from the site have shown 117 ppb benzene, 20 ppb acetone, 39 ppb 1,2-dichloroethane, 13 ppb toluene and 92 ppb methylpertane. Groundwater levels observed from private wells vary between 6.5 feet and 110 feet. In order to determine level and extent of contamination from the site, groundwater monitoring will be necessary.

The installation of 8-10 monitoring wells at this site is proposed. The results of monitoring are intended for HRS scoring of the site (Figure 3). It will be necessary to determine the extent of the clay lense (layer) by geophysical tests. If this proves to be as extensive as suggested by the State Water Survey, nested wells will be required to determine the level of pollution in the various aquifers. If nested wells are required, appropriate sealing of deep wells to prevent cross-contamination will be done.

Installing the wells will require a combination of the auger and rotary wash techniques. The auger method will be used at shallow depths and a change over to the rotary for deep drilling. Following installation, each well will be developed by flushing 10-20 well volumes using Grade D or E air. This will clear drilling debris and prevent clogging of the screen, thus providing a suitable drawing

area for the well. Groundwater samples will be collected and analyzed for heavy metals, organics, and cynides. The results of this analysis will be used to perform a HRS scoring for the site.

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